

AMENDMENTS TO THE CLAIMS

The present listing of claims replaces all prior versions and listings of claims in the subject patent application.

Claim 1 (canceled)

Claim 2 (canceled)

Claim 3 (canceled)

Claim 4 (canceled)

Claim 5 (canceled)

Claim 6 (canceled)

Claim 7 (new): Apparatus for measuring the electrical resistance of a portion of skin, and for detecting imprecise placement of the portion of skin onto sensors adapted for such measurements and disposed on a surface of said apparatus, said apparatus comprising in combination:

at least two main sensors disposed on the surface and defining an area thereon, said at least two main sensors being capable of measuring electrical resistance;

at least two auxiliary sensors disposed on the surface and outside of the area defined by said at least two main sensors, said at least two auxiliary sensors being capable of measuring electrical resistance; and

a processor for receiving and for analyzing measured electrical resistance from said at least two main sensors and from said at least two auxiliary sensors when the portion of skin is placed in contact with said apparatus; whereby a measured electrical resistance from said at least two main sensors is used in the measurement of the electrical resistance of the portion of skin if said at least two auxiliary sensors have a measured electrical resistance.

Claim 8 (new): The apparatus of claim 7, wherein the measured electrical resistance of said at least two main sensors is obtained using a direct current, and the measured electrical resistance of said at least two auxiliary sensors is obtained using an alternating current.

Claim 9 (new): The apparatus of claim 7, wherein said processor differentiates between the measured electrical resistance of said at least two main sensors and the measured electrical resistance of said at least two auxiliary sensors.

Claim 10 (new): The apparatus of claim 9, wherein said processor provides a warning if said at least two auxiliary sensors do not have a measured electrical resistance.

Claim 11 (new): The apparatus of claim 7, wherein each of said at least two main sensors, and each of said at least two auxiliary sensors are capable of conforming to the shape of the portion of skin undergoing measurement.

Claim 12 (new): The apparatus of claim 11, wherein each of said at least two main sensors and each of said at least two auxiliary sensors are spring-mounted to the surface such that a constant bearing pressure of the portion of skin is produced on each of said at least two main sensors and on each of said at least two auxiliary sensors.

Claim 13 (new): The apparatus of claim 11, wherein each of said at least two main sensors are spring-mounted to the surface such that a constant bearing pressure of the portion of skin is produced on each of said at least two main sensors.

Claim 14 (new): The apparatus of claim 11, wherein each of said at least two main sensors and each of said at least two auxiliary sensors are pivotably mounted to the surface.

Claim 15 (new): Apparatus for measuring the electrical resistance of a portion of skin, and for detecting imprecise placement of the portion of skin onto sensors adapted for such measurements and disposed on a surface of said apparatus, said apparatus comprising in combination:

a plurality of sensor pairs disposed on the surface, each sensor pair in said plurality of sensor pairs being capable of measuring electrical resistance; and

a processor for receiving and for analyzing the measured electrical resistance from each of said sensor pairs in said plurality of sensor pairs, when the portion of skin is placed in contact with said apparatus; whereby measurements of the electrical resistance from sensor pairs which are in partial contact with the portion of skin are used to define a contact area, and the measurement of the electrical resistance by sensor pairs within the contact area are used in the measurement of the electrical resistance of the portion of skin.

Claim 16 (new): The apparatus of claim 15, wherein each sensor in said pair of sensors in said plurality of pairs of sensors is capable of conforming to the shape of the portion of skin undergoing measurement.

Claim 17 (new): The apparatus of claim 16, wherein each sensor in said pair of sensors in said plurality of pairs of sensors is spring-mounted to the surface such that a constant bearing pressure of the portion of skin on each of said sensors is produced.

Claim 18 (new): The apparatus of claim 16, wherein each sensor in said pair of sensors in said plurality of pairs of sensors is pivotably mounted to the surface.

Claim 19 (new): Apparatus for measuring at least one chosen property of a portion of skin, and for detecting imprecise placement of the portion of skin onto sensors adapted for such measurements and disposed on a surface of said apparatus, said apparatus comprising in combination:

at least one main sensor disposed on the surface and defining an area thereon, said at least one main sensor having an electrical output responsive to a first skin property being measured;

at least one auxiliary sensor disposed on the surface and outside of the area defined by said at least one main sensor, said at least one auxiliary sensor having an electrical output responsive to a second skin property being measured; and

a processor for receiving and for analyzing the electrical output from said at least one main sensor and from said at least one auxiliary sensor when the portion of skin is placed in contact with said apparatus; whereby the electrical output from said at least one main sensor is analyzed and used in the measurement of said chosen property if said at least one auxiliary sensor has an electrical output.

Claim 20 (new): The apparatus of claim 19, wherein the first skin property and the second skin property are the same.

Claim 21 (new): The apparatus of claim 19, wherein the at least one chosen property is selected from the group consisting of skin temperature, circulation, oxygen saturation, surface hardness, and heat dissipation.

Claim 22 (new): The apparatus of claim 19, wherein each of said at least one main sensor, and each of said at least one auxiliary sensor are capable of conforming to the shape of the portion of skin undergoing measurement.

Claim 23 (new): The apparatus of claim 22, wherein each of said at least one main sensor and each of said at least one auxiliary sensor are spring-mounted to the surface such that a constant bearing pressure of the portion of skin is produced on each of said at least one main sensor and on each of said at least one auxiliary sensor.

Claim 24 (new): The apparatus of claim 22, wherein each of said at least two main sensors are spring-mounted to the surface such that a constant bearing pressure of the portion of skin is produced on each of said at least two main sensors.

Claim 25 (new): The apparatus of claim 22, wherein said at least one main sensor and said at least one auxiliary sensor are pivotably mounted to the surface.

Claim 26 (new): Apparatus for measuring a chosen property of a portion of skin, and for detecting imprecise placement of the portion of skin onto sensors adapted for such measurements and disposed on a surface of said apparatus, said apparatus comprising in combination:

a plurality of sensors disposed on the surface, each sensor in said plurality of sensors having an electrical output responsive to the skin property being measured; and

a processor for receiving and for analyzing the electrical output from each sensor in said plurality of sensors, when the portion of skin is placed in contact with said apparatus; whereby measurements of the electrical output from said sensors which are in partial contact with the portion of skin are used to generate a contact area, and the measurement of the electrical output by said sensors within the contact area are used in the measurement of the chosen property of the portion of skin.

Claim 27 (new): The apparatus of claim 26, wherein the chosen property is selected from the group consisting of skin temperature, circulation, oxygen saturation, surface hardness, and heat dissipation.

Claim 28 (new): The apparatus of claim 26, wherein each of said sensors in said plurality of sensors is capable of conforming to the shape of the portion of skin undergoing measurement.

Claim 29 (new): The apparatus of claim 28, wherein each of said sensors in said plurality of sensors is spring-mounted to the surface such that a constant bearing pressure of the portion of skin is produced on each of said sensors in said plurality of sensors.

Claim 30 (new): The apparatus of claim 28, wherein each of said sensors in said plurality of sensors is pivotably mounted to the surface.

Claim 31 (new): Apparatus for measuring the electrical resistance of a portion of skin, and for detecting imprecise placement of the portion of skin onto sensors adapted for such measurements and disposed on a surface of said apparatus, said apparatus comprising in combination:

- at least one main sensor disposed on the surface and defining an area thereon;

- at least one auxiliary sensor disposed on the surface and outside of the area defined by said at least one main sensor;

- at least one reference sensor, wherein said at least one main sensor and said at least one auxiliary sensor are capable of measuring electrical resistance in cooperation with said at least one reference sensor.

- a processor for receiving and for analyzing measured electrical resistance from said at least one main sensor and from said at least one auxiliary sensor in cooperation with said at least one reference sensor when the portion of skin is placed in contact with said apparatus; whereby a measured electrical resistance from said at least one main sensor is used in the measurement of the resistance of the portion of skin if said at least one auxiliary sensor has a measured resistance.

Claim 32 (new): The apparatus of claim 31, wherein the measured resistance of said at least one main sensor is obtained using a direct current, and the measured resistance of said at least one auxiliary sensor is obtained using an alternating current.

Claim 33 (new): The apparatus of claim 31, wherein said processor differentiates between the measured resistance of said at least one main sensor and the measured resistance said at least one auxiliary sensor.

Claim 34 (new): The apparatus of claim 33, wherein said processor provides a warning if said at least one auxiliary sensor does not have a measured resistance.

Claim 35 (new): The apparatus of claim 31, wherein said at least one main sensor, said at least one auxiliary sensor, and said at least one reference sensor are capable of conforming to the shape of the portion of skin undergoing measurement.

Claim 36 (new): The apparatus of claim 35, wherein said at least one main sensor, said at least one auxiliary sensor, and said at least one reference sensor are spring-mounted to the surface such that a constant bearing pressure of the portion of skin is produced on said at least one main sensor, on said at least one auxiliary sensor, and on said at least one reference sensor.

Claim 37 (new): The apparatus of claim 35, wherein said at least one main sensor and said at least one reference sensor are spring-mounted to the surface such that a constant bearing pressure of the portion of skin is produced on said at least one main sensor and on said at least one reference sensor.

Claim 38 (new): The apparatus of claim 35, wherein said at least one main sensor, said at least one auxiliary sensor, and said at least one reference sensor are pivotably mounted to the surface.